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COMPARATIVE STUDY OF LATERAL VERSUS POSTERIOR MEDIAN INTERNAL ANAL SPHINCTEROTOMY WITH FISSURECTOMY FOR CHRONIC FISSURE IN ANO; A RETROSPECTIVE RANDOMIZED TRIAL

General Surgery

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ABSTRACT

Introduction: Anal fissure causes significant morbidity in the population. It is proposed that elevated sphincter pressures may causes ischemia of the anal lining and this May be responsible for the pain of anal fissures and their failure to heal. When pharmacologic therapy fails or fissures recur frequently, lateral or posterior median sphincterotomy is the surgical treatment of choice. Retrospective analysis was done of admitted and operated patients of anal fissure by lateral or posterior median internal anal sphincterotomy technique between august 2019 to august 2021 in Nootan Medical college and research center, Nitya surgical hospital and Viraj surgical hospital, Visnagar.The follow-up data of all patients was evaluated for pain relief, recurrence wound infection, incontinence to flatus or stool or both for a period of up to 6 months. **Results:** Wound infection rate was 2% in lateral internal anal sphincterotomy and 4% in posterior median internal anal sphincterotomy.Incontinence to flatus was 2% in lateral anal sphincterotomy and 6% in posterior median internal sphincterotomy. This was temporary and controlled within a 1 week. Incontinence to stool was none in lateral and posterior median internal anal sphincterotomy. None of the patients in either group had come with recurrence within 6 months follow –up. **Conclusion:** Lateral anal internal sphincterotomy is safe regarding long term incontinence and effective regarding recurrence.

KEYWORDS

Anal fissure, Lateral internal anal sphincterotomy, Posterior median internal anal sphincterotomy, Incontinence, Wound infection, Recurrence

INTRODUCTION

Anal fissure is a common anal pathology that causes significant morbidity in the population. It may be acute or chronic. It may be treated medically or surgically.

This is a retrospective analysis of admitted and operated patients of anal fissure by lateral and posterior median internal anal sphincterotomy between August 2019 to August 2021 in Nootan Medical College and Research center, Visnagar. Nitya surgical hospital and Viraj surgical hospital, Visnagar, Gujarat, India.

The purpose of the study is to find out operative outcome of chronic anal fissure by lateral versus posterior median internal anal sphincterotomy in relation to post operative complications with 6month follow-up.

The cause of anal fissure has been long debated. Trauma to the anal canal secondary to the passage of hard stool is believed to be a common initiating factor. A history of constipation is not universally obtained and some patient on the contrary report an episode of diarrhea before the onset of symptoms. An anal fissure is a longitudinal split in the anoderm of the distal anal canal. This extends from the anal verge proximally towards but not beyond the dentate line.

Chronic fissures may be associated with a hypertrophied anal papillae and a skin tag. Over a period of time the internal sphincter muscle hypertrophies becoming more effective in keeping the wound open and preventing spontaneous closure of the fissure. It is proposed that elevated sphincter pressure may cause ischemia of the anal lining and this may be responsible for the pain of anal fissures and failure to heal.
The main stay of current conservative management is the topical application of pharmacological agent that relaxes the internal sphincter. This reduces spasm whereby pain is relieved and the increased vascular perfusion promotes healing. Such agent includes Glycerin trinitrate 0.2% and diltiazem 2%.

When pharmacologic therapy fails or fissure recur frequently, lateral or posterior median internal anal sphincterotomy remains the gold standard treatment for definitive management of anal fissure, but comes with a risk of incontinence.

MATERIAL AND METHODS

This study include retrospective analysis of operated patients of anal fissure by lateral or posterior median internal anal sphincterotomy between august 2019 to august 2021 in Nootan medical college and research center, Visnagar, Nitya surgical hospital and Viraj surgical hospital,Visnagar,Gujarat,India. It is a retrospective experimental study in which patient with chronic fissure in ano was randomly allocated to one of two groups: group A underwent for lateral anal sphincterotomy and group B underwent posterior median internal anal sphincterotomy with fissurectomy. Both groups of patients was compare regarding the duration of healing of anal fissure, improvement in anal pain, patient's happiness, wound infections, incontinence to flatus or stool or both for a period of up to 6 months, and recurrence of fissure in ano.

Inclusion criteria

- Age: All age groups
- Sex: Both male and female
- Not responding to medical conservative treatment.
- Came in opd of Nootan general hospital, Nitya surgical hospital and Viraj surgical hospital, Visnagar, Gujarat, India.

Patients was selected and divided in two groups randomly by lottery method. Data collection was done in follows up for 6 months by questionnaire and clinical examination in opd and analyzed result for conclusion of which technique of surgery is best for chronic fissure in ano.

Exclusion criteria

- Patient having chronic fissure in ano along with 3rd degree piles.
- Patients having chronic fissure in ano along with perianal fistula.

The internal sphincter was divided away from the fissure itself in the left lateral position in lateral sphincterotomy and internal sphincter was divided through fissure in posterior midline position in posterior median internal anal sphincterotomy. The procedure was carried out under spinal (saddle) anesthesia and with the patient in the lithotomy position. In the lateral sphincterotomy technique, the anoderm overlying the distal internal sphincter was divided longitudinally at 3 o'clock position to expose the sphincter, which was divided and the wound was closed with absorbable suture vicryl 3-0 round body simple suture. When external anal skin tags were present, they were excised.

The follow-up data of all patients was evaluated for pain relief, recurrence, wound infection, incontinence to flatus or stool or both for a period of up to 6 months

Patients were admitted and operated in Nootan general hospital, Nitya surgical hospital and Viraj surgical hospital, Visnagar between august 2019 to august 2021.This along with follow-up data of up to 6 months was evaluated retrospectively.

(Table-Figure-1) shows, most common age group were 30 to 40 years(40%).26 patients(52%) were operated by lateral internal sphincterotomy and 24 patients(48%) were operated by posterior

median internal sphincterotomy.(Table-Figure-2) shows, out of 50 patients 21 (42%) were male and 29 (58%) were female patients. All patients of lateral and posterior median internal anal sphincterotomy had postoperative pain relief of anal fissure.

(Table-Figure-3) shows, total 4 (8%) patients had wound infection. Out of these,1 patient was in lateral sphincterotomy and 3(6%) patients were in posterior median internal sphincterotomy. All patients were treated with oral antibiotics as an outdoor patient. None of the patients were required any injectable antibiotics. None of the patients in either group had come with recurrence within 6 months follow-up.

(Table-Figure-3) shows, 2(4%) patients in posterior median internal sphincterotomy and 1(2%) patient in lateral internal sphincterotomy had temporary incontinence to flatus which was controlled within 1 week. Overall temporary incontinence to flatus was observed in 3 (6%) patients.1 (2%) patient in posterior median internal sphincterotomy had temporary incontinence to stool, while none of the patients in lateral internal sphincterotomy had temporary incontinence to stool. Overall temporary incontinence to stool was observed in 1(2%) patient and controlled within 2 weeks. In neither group the patient had permanent incontinence to stool or flatus.

(Table-Figure-1) Age wise distribution of patients

Age groups (years)	Operated patients of fissures
< 20	2 (4%)
20 to 30	14 (28%)
30 to 40	20 (40%)
40 to 50	11 (22%)
50 t0 60	2 (4%)
60 to 70	1 (2%)
71 to 80	0
Total	50

(Table-Figure-2) Sex wise distribution of patients

Method of surgery	Male	Female	Total
Lateral sphincterotomy	11	15	26
Posterior median sphincterotomy	10	14	24
Total	21	29	50

(Table-Figure-3) Postoperative complications

Post operative complications	Lateral internal sphincterotomy	Posterior median internal sphincterotomy	Total
Pain of fissure not relieved	–	–	–
Wound infection	1(2%)	3(6%)	4(8%)
Recurrence	–	–	–
Temporary incontinence to flatus	1(2%)	2(4%)	3(6%)
Temporary incontinence to stool	–	1(2%)	1(2%)
Permanent incontinence to flatus	–	–	–
Permanent incontinence to stool	–	–	–

DISCUSSION

40% of operated patients of anal fissure by lateral and posterior median internal anal sphincterotomy were in middle age group of 31 to 40 years. Age groups in most studies were between 31 to 40 years (6.9).

In present study, male were 42% and female were 58% in the operated patients of anal fissure by internal anal sphincterotomy. Study done by Shafiq ullah et al (6) and other study done by Tauro LF et al...Had shown more male patients than female (8).Study done by Oh C et al.. Had shown equal ratio of male and female (7)..

In present study, wound infection rate was 2% in lateral sphincterotomy and 6% in posterior median internal sphinctrotmy. Wound infection rate in lateral sphincterotomy was lower than posterior median internal sphincterotomy. Overall wound infection rate was 8% which was quiet high but all responded very well with antibiotics and none of patient requires admission or parental antibiotics. Study done by Shafiq ullah et al..Had shown wound infection rate of 4% in lateral internal anal sphincterotomy (6).

In present study incontinence to flatus was 2% in lateral sphincterotomy and 4% in posterior median sphincterotomy with an overall rate of 6%.This was temporary and controlled within a 1 week. Incontinence to stool was 2% in posterior median sphincterotomy which was temporary and controlled within 2 weeks while none in lateral internal anal sphincterotomy with overall rate of 2%.

Study done by Shafiq ullah et al...Had shown incontinence rate of 24% in closed lateral anal internal sphincterotomy (6) which is quit high compared to present study.

Study done by E-Ram et al...Had shown 15% incidence of minor incontinence in the group who underwent anal dilatation and 4% incidence of minor incontinence in the group who underwent lateral sphincterotomy, which is comparable to our study (10).

Study done by Tauro LF et al…had shown incidence of flatus incontinence of 3.3% and anal seepage of 6.6% in lateral sphincterotomy group(8).Study of "tailored" lateral sphincterotomy by selecting the height of sphincter to be divided done by David RG Littlejohn et al had shown that incidence of imperfect control of flatus of 1.4%,minor staining of 0.35% and urgency of 0.7% which is less compare to our study(11).This shows that incontinence rate can be decreased by reducing the cutting depth of internal sphincter.

In present study both the group patients had pain relief for anal fissure in postoperative period. No recurrence was noted in either group of patients in present study. May be longer follow-up would help. Study done by Shafiq ullah ET al…had shown recurrence rate of 12% in lateral anal sphincterotomy. Study done by E Ram ET al…had shown recurrence rate of 2% with average follow-up of 11.2 months (10).
In present study incidence of incontinence to flatus and stool was significant but it was temporary and controlled within maximum 2 weeks. Wound infection was quit high in posterior median internal sphincterotomy as compared to lateral sphincterotomy but all were treated well with antibiotics. There was no incidence of permanent incontinence to either flatus or stool in present study with no recurrence was noted in both group patients with 6 months follow-up.

CONCLUSION

Lateral anal internal sphincterotomy is safe regarding long term incontinence to flatus and effective regarding recurrence. Wound infection is low in lateral internal anal sphincterotomy compare to posterior median internal anal sphincterotomy.

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